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A PILOT STUDY ASSESSING TYPE A BEHAVIOR IN VIOLENCE-PRONE INMATES

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ABSTRACT

This study compared the Type A tendencies reported in the Behavior Activity Profile (BAP) questionnaire and those revealed in a taped-voice analysis of 34 male prison inmates convicted for a variety of violent offences. The primary objective was to provide prison officials with an instrument for differentiating repeat assaulters from non-assaulters. The secondary objective was to determine which of the two Type A assessment techniques was more predictive of prisoner assaulter status. The multivariate statistical results indicated that prison assaulters were more likely to be Type A in orientation on the BAP, were serving shorter sentences, and had a high number of previous convictions. A discriminant function using these three variables was able to differentiate assaulters from non-assaulters with 88% accuracy. Implications for prison administrators and researchers are discussed.

Violence in prison settings has been increasing over the past decade and it appears that the traditional measures used to reduce violent behavior among inmates have not been particularly successful (Porporino & Marton, 1983). It is known that the actual proportion of violence-prone inmates is small compared to the total prison population (Quinsey & Varney, 1978; Bennett, 1976). If these individuals could be reliably identified in the early stages of their prison careers, the introduction of violence prevention programs might prove to be an efficient strategy for counteracting prison violence. Attempts to identify the potentially violent inmate normally occurs (if time and resources permit) soon after entry into the prison system. Unfortunately, to date no assessment method has proved to have high predictive validity.

Over the years, a series of studies with the major personality tests, including the California Psychological Inventory (CPI), the Multiphasic Personality Inventory (MMPI), the Rorschach Inkblot Test, the Rosenzweig Picture-Frustration Study, and the Thematic Apperception Test (TAT), have indicated that no available scale can be relied upon to distinguish assaultive from nonassaultive offenders, although a number can discriminate offenders from nonoffenders (Megargee, 1966, 1967, 1970; Megargee & Cook, 1967; Megargee & Mendelsohn, 1962; Megargee & Menzies, 1971, Monahan, 1981). The prediction of violence by these tests appears to be exaggerated; Monahan (1981) notes that a number of studies overpredicted violent acts by 65% to 99%. In addition, "faking answers or appearances" appears to be a significant problem with the prison population; Sinclair & Chapman (1973), for example, could not discriminate prisoners' behavior using extraversion and

neuroticism measures partly because the subjects involved tended to fake low extravertive scores.

Despite the shortcomings of the aforementioned test instruments, some consistent findings are reported in the literature regarding violence-proneness. While the socio-culture-of-violence hypothesis seems to be no longer acceptable (Bell-Rokeach, 1973), psychological descriptions of violent inmates include their consistent difficulty with fantasizing and with expressing feelings as well as their reluctance to express aggressive tendencies in their projective tests (Keltikangas-Järvinen, 1982). The findings are not consistent across sexes; the literature has shown that self- mutilating women prisoners tend to express higher-than-normal levels of aggression (Cookson, 1977), whereas male rapists and murderers display below-normal levels of aggression (Kozma & Zuckerman, 1983).

Recently, the body of research on" Type A" behavior has shown promise for predicting violence-proneness on the basis of this personality typing (Friedman & Rosenman, 1974). As a response style to stressful stimulation, Type A behavior has been associated with new and existing cases of coronarly heart disease (CHD) (Jenkins et al., 1974) and with the extent of coronary atherosclerosis (Zyzanski et al., 1976). Glass (1977) specified three dominant Type A characteristics typically investigated: (a) competitive achievement and striving, (b) exaggerated sense of time urgency, and (c) aggressiveness and hostility. The Type B personalilty is characterized by opposite types of characteristics--generally describing one who is "laid-back and easy-going." Even though some studies are convincing that there is a strong relationship

between the Type A personality and the propensity for hostility among individuals in the North American general populations (in students, in particular: Van Egeren et al., 1983; Check & Dyck, 1984), other studies indicate that hostility is more directly related with some debilitating physical or mental illness (including stress) rather than with the Type A personality (see, for example, Williams et al., 1980). These findings suggest that it might prove worthwhile to investigate how Type A behavior is related to hostile/violent acting out within a typically violent population. However, no research to date has been conducted within a prison setting attempting to link Type A behavior and violence-proneness.

In this study we assessed the Type A tendencies of 34 male prison inmates convicted of a variety of violent offenses. Such tendencies were assessed using both a self-report questionnaire measure and a taped-voice interview technique. The primary objective of the study was to determine whether the measurement of Type A behavior could be a useful alternative to the presently used techniques to predict violence-proneness in prison settings. A secondary objective was to ascertain the relationship between the different methods of measuring Type A behavior--the questionnaire and the taped-voice interview--to compare their predictive validity.

On the basis of past research on populations generally characterized as Type A-oriented (i.e., risk-oriented, aggressively predisposed types such as are found in managerial populations), it was hypothesized that: (1) the violence-prone sample under study

would encompass a group of predominantly Type A personalities; (2) the percentage of Type As to Type Bs was expected to be 61% to 39%, respectively (see Howard et al., 1977 for the descriptors of the managerial sample). Moreover, it was hypothesized that (3) the the passive life style typically found within the prison walls would create the type of unmatched personality-environment-fit that would cause the Type A prisoner (rather than the more passive Type B prisoner) to react, venting his discomfort in an act of anger or aggressiveness. As Rosenman and Friedman state: "for the Type A behavior pattern to explode into being, the environmental challenge must always serve as the fuse for this explosion" (Friedman & Rosenman, 1974, p. 84). Frankenhaeuser et al. (1980) found that even "healthy" Type A subjects felt more distressed than Type Bs during inactivity. Thus, it seems reasonable to suggest that Type A prisoners would feel more distressed than Type B prisoners during incarceration.

METHOD

Subjects

Subjects were 34 inmates with a violent criminal background who were incarcerated in either a medium-or a maximum-security institution in the Kingston, Ontario, Canada, area. The subjects, who ranged in age from 22 to 43 years (M: 32.7, SD: 7.0), were all men who had been convicted of a criminal offense and sentenced to federal correctional institutions for a term of more than two years. Of the total, 50% were incarcerated for second degree murder, 27% were incarcerated for armed robbery, 18%, for manslaughter, rape, and aggravated assault, and the remaining 6%, for first degree murder. The majority of the subjects were thus

serving life sentences, generally ineligible for parole for periods from 10 to 25 years. The mean number of years from first to last conviction was 9.4 (SD: 6.9).

Participants were volunteers, enlisted by in-house psychologists, who told the participants that they would be offered a personality profile by the researchers following completion of the research project. The participants were told that the researchers were university professors who were interested in studying the relationships between personality type, stress, and aggression within the prison setting.

Subjects were categorized on the basis of confidential files maintained by Correctional Services Canada as being either an "assaulter" or a "nonassaulter." "Assaulter" meant that the individual had been charged with some act of physical aggression (murder, attempted murder, or a physical assault of a guard or of fellow inmates) over the past year. The population derived by the computer files as being "assaulters" included 22 prisoners in the medium-security prison and 38 in the maximum-security prison, comprising a potential assaulter group of 60 individuals. The potential random sample of "non-assaulter controls" in both the medium- and the maximum-security prison totalled 79 (39 and 40, respectively, for the two types of prisons). In the end, 12 subjects from the assaulter group agreed to participate in the experiment (7 and 5, respectively, from the medium-and maximum-security prisons), and 22 subjects from the nonassaulter control group agreed (15 and 7, respectively, from the medium-and maximum-security prisons).

Instruments

Type A behavior was assessed using two methods: (1) a self-reported questionnaire, the Behavior Activity Profile (BAP) of Matteson and Invancevich (1979), and (2) the structured interview method believed by most researchers to be more reliable than the self-reported questionnaire (Chesney *et al.*, 1980). The adapted version of the BAP consisted of 32 responses to 16 questions. This instrument yields a Type A/B score that ranges from -80 to 80. For each question, the subject must allocate a total of 5 points between a Type A and a Type B response. An earlier version of the BAP consisting of 64 responses to 32 questions and yielding a score of -160 to 160, had a reported internal consistency estimate (coefficient alpha) of 0.79 (Batlis & Small, 1982). Both instruments were used: (1) to get a measure of the distribution of Type As in the prison population, (2) to ascertain if clinically assessed prisoners saw themselves as being Type A in nature, and (3) to investigate the potential relationship between Type A behavior and propensity for assaultive behavior.

Procedure

Each prisoner's presence at the interview resulted from this process: (1) As described above, a list of inmates corresponding to the characteristics of "repeat assaulter" or "nonassaulter control" was compiled from computerized statistics at the Correctional Services Headquarters in Ottawa, Ontario, Canada; (2) the psychology department of each of the two institutions involved, upon approval from the security staff, approached each inmate on

the list to request participation in the study; (3) those inmates who volunteered to become involved were pre-assessed by a prison psychologist a few days prior to the interview to ensure the safety of the interviewers; on this basis, one candidate was refused participation by the psychologist; and (4) on the day of the interview, the clerk of the prison psychology department called the prisoners according to a time schedule prepared beforehand. If the prisoner failed to appear for his scheduled interview appointment, he was rescheduled for another day. Prior to the structured interview, the primary researcher (trained in the Type A interviewing technique), summarized the purpose of the study and asked the prisoner to sign a consent form allowing the researchers to study his taped voice pattern. The participant was was given the opportunity to ask questions at this time and to decide if he wished to continue. Four individuals declined. All participants were assured that their answers would remain confidential, and that their responses would not affect their position in the prison in any way. The researchers at this time asked the participants if they would be interested in receiving a summary of the interview findings upon completion of the analysis.

The structured Type A interview lasted from 20 to 30 minutes. Following this, the participant was asked to complete the BAP by a second interviewer seated in the room. A third researcher compiled data from the prison files on each of the prisoners scheduled for an interview. The average participation time per prisoner was 35 minutes.

Following the data collection phase, all 34 respondents were assessed for Type A behavior through a "blind" review process of their taped interviews by the trained interviewer. The latter was not informed of either the content of prisoners' files or of their classification as "assaultive" or "nonassaultive." The BAP was scored following the typing of the taped interviews. Finally, data bases were developed for each prisoner, containing: assaulter/nonassaulter typing, age, number of years between first and last conviction, most serious conviction of prisoner (on a a scale from 1-4, with crimes ranging from armed robbery to first degree murder), overall number of convictions, length of sentence, interview typing: A1, A2, B3, B4 (the descriptors of which are detailed in Chesney et al., 1980), and respondent's own typing according to the BAP (where a negative score implies a Type B behavioral type, and a 0 or positive score implies a Type A behavioral type).

RESULTS

Following completion of the two methods of Type A assessment, 13 discrepancies in scoring between the self-reports (BAP) and the taped interviews were found, representing a significant 40% discrepancy. By the taped interview method, 16 of the prisoners (47%) were found to be Type As (6 A1s, 10 A2s); by self-reports, 13 of the Ss (38%) perceived themselves to be Type As. By the taped interview method, the remaining 18 (53%) were found to be Type Bs (13 B3s, 5 B4s); by self-reports (BAP), the remaining 21 (62%) perceived themselves to be Type Bs. The results seem to

indicate that offenders with violent criminal backgrounds are more B-typed than predicted (i.e., compared to the high-risk managerial population. In fact, the mean BAP score (-10.2, SD: 16.8, minimum: -48, maximum: 20) indicated that, on average, the prisoners with violent criminal backgrounds perceived themselves to be more Type B than Type A in character. Such a finding is counter to the results of Matteson & Ivancevich (1979), where typically risk-oriented, aggressive males such as managers have mean BAP scores in the +12 region. Moreover, Batlis and Small (1982) found that masculine-oriented psychology students (rated on the Bem Sex Role Inventory), scored, on average, +23--far above that for this prison population. A negative BAP score is generally correlated with feminine-oriented subjects (having means in the -11 area; see Batlis & Small, 1982), and those in female-typed occupations such as nursing (Matteson & Ivancevich, 1979).

To assess the hypothesis that the distribution of Type As in our offender population was similar to that found in high-risk managerial populations, two separate chi-square tests were completed: (1) with the self-reported BAP scores and (2) with the taped-voice interview scores. The expected Type B-to-Type A ratio, described by Howard et al. (1977), was 4:6. The results are given in Table 1. The results of the taped voice interview

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INSERT TABLE 1 ABOUT HERE

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indicated that there was no significant difference between the observed number of Type B and Type A cases and the expected number derived from the 4:6 ratio, lending support to the first

hypothesis. However, there was a significant difference between the observed and the expected number for each type when the self-reported scores were analyzed, with a reversal of the predicted ratio.

Table 2 presents the Spearman correlation matrix for the variables: age of respondent (AGE), number of years between first and last conviction (CONVD), respondent's Type A/B rating (BAP), interviewer's Type A/B rating (AB), a 1-4 scale for prisoner's most serious conviction (SERC), a 1-4 scale for number of convictions in the prisoner's criminal life (NOC), assaulter/nonassaulter status (AN), and a 1-4 scale for length of sentence (S).

INSERT TABLE 2 ABOUT HERE

Some of the most relevant findings were as follows: (1) Assaulter/nonassaulter status was the most highly correlated variable with BAP score, (r= 0.50); (2) Assaulter/nonassaulter status was negatively correlated with the length of sentence (r= -0.38), indicating that assaulters, in general, are serving shorter sentences; (3) Assaulter/nonassaulter status was not correlated with interviewer's Type A/B rating (r= -0.09); (4) Age was positively correlated with SERC (r= 0.43), indicating that older prisoners have committed more serious crimes compared to their younger counterparts; (5) The two methods--interviewer's Type A/B rating and the BAP rating--were not correlated (r= -0.07); and (6) As would be expected, length of sentence and seriousness of crime were highly correlated (r= 0.90).

To ascertain if BAP explains a portion of the variance in AN,

it would have been preferable to undertake an analysis of variance with AN as the dependent variable. However, because AN was nominally scaled, such an undertaking was impractical. In this light, BAP was ordered as the dependent and AN as the independent variables. The results in Table 3 show that BAP explained a portion of the variance in AN (p= 0.003). To avoid completing

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INSERT TABLE 3 ABOUT HERE

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a series of one-way analyses of variance with AN as the predictor variable, a discriminant analysis using Mahal's method (SPSSX) was conducted with assaulter/nonassaulter status as the group variable and NOC, S, CONVD, AGE, BAP, SERC, and AB as the explanatory variables. The results in Table 4 show that BAP, NOC,

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INSERT TABLE 4 ABOUT HERE

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and S formed the discriminating function, accounting for 84% of the variance in the assaulter/nonassaulter grouping. The "hit rate" was 90.9% for the nonassaulter classification, 83.3% for the assaulter classification, and 88.2% for the combined groups.

BAP score was the strongest discriminating variable. The assaulters saw themselves as Type As (M: 1.0 on the BAP, SD: 14.2, n= 12), while the nonassaulters saw themselves as Type Bs (M: -16.3, SD: 15.1, n= 22). Moreover, on average, nonassaulters had life sentences of 10-15 years, while assaulters had sentences of 5-10 years. Finally, on average, assaulters had conviction records in the 11-19 frequency range, while nonassaulters had records in the 2-10 frequency range. Such findings tend to support the assertion that self-reports of

prisoners show that Type As feel more distressed than Type Bs during incarceration, possibly due to the inactive lifestyle within the prison environment. Such an assertion would support Frankenhauser et al.'s (1980) contention that Type As show a tendency to be equally aroused, or even more aroused, during inactivity.

The reliability of the BAP instrument, measured by Cronbach's alpha coefficient, was 0.52. This figure is lower than the 0.79 alpha coefficient reported by Batlis and Small (1982) for a 32-item version of our 16-item index. Potential causes of the discrepancy are: (1) a reduction in the number of items in the questionnaire, (2) the presence of job-oriented items which seemed to be more relevant to a working population, (3) a difficulty in comprehension by prisoners of some rather complex sentence structures, (4) the prisoners' lack of self-awareness and ability to answer attitudinal questions about themselves, and (5) a deliberate faking by respondents of answers perceived to be pleasing to the researchers. A closer examination revealed that elimination of some items from the questionnaire could improve the alpha coefficient. Future revisions of the BAP instrument should include provisions for the elimination of the managerial-oriented wordings of the items and a reduction in the complexity of the vocabulary and sentence structures.

DISCUSSION

Given that this pilot study had a small sample, caution must be taken in generalizing the results. The interview technique produced the same ratio of Type A-to-Type B behaviors in prisoners

as that in the high-risk coronary-prone groups. However, typings according to this method failed to differentiate assaulter from nonassaulter subgroups within the prison environment.

The discriminant function formed by combining the BAP and two other variables was an effective instrument for differentiating repeat assaulters from nonassaulters.

Future studies should investigate what characteristics the BAP is measuring which results in its predictive power; it seems that the instrument taps the prisoner's ability to accept rather than reject or become anxious about the passive prison environment. In this light, Type Bs appear to be more accepting of the inactive prison environment compared to their Type A counterparts, who appear to become overly aroused by it, causing them to vent their hostility through aggressive verbal and physical means. Future studies should employ larger samples and greater numbers of institutional security settings (including minimum security institutions) to determine if the patterns as suggested herein remain stable.

To date, the controversy brews in the literature over whether the aggression exhibited by Type As in the general population is instrumental or hostile in nature. The same problem exists in better understanding the repeat assaulter within prison settings. Because Type As display strong achievement striving (Glass, 1977) and are predisposed to reactance manipulations (Rhodewalt & Davison, 1983), they may react to a prior task failure by a perceived threat to their competency and their ability to control (Strube et al., 1984). To regain control, they may perceive that

the instrumental response available to them is that of aggressing toward others.

In prison, inmates who commit petty crimes such as stealing someone's radio or television are usually physically aggressed by the owner of the personal belongings. Such aggression acts as a means of not only re-gaining control over one's life (whose loss resulted from a past failure, such as a crime "turned sour") but re-gaining a sense of competency (lost through the aforementioned task failure). An alternate explanation to the instrumental response rationale is simply the venting of anger or hostility.

Research has demonstrated that Type As become more physiologically aroused (Pittner et al., 1983) and behaviorally irritated (Glass et al., 1974) by immediate environmental threats to their control. In prison, such an immediate threat may be caused by a guard's reinforcing the superior-subordinate relationship, thus increasing the level of irritation or annoyance in the prisoner. This incident can lead to aggressive behavior by the prisoner, whose primary goal becomes injurying the target--the guard. The heightened aggression exhibited by Type A assaulters may be an emotionally hostile response by the individual to his loss of control (Strube et al., 1984).

In summary, more research is needed: (1) to differentiate the two sources of aggression within the prison setting, and (2) to explain the discrepancy between the two methods of assessing Type A and Type B behavior. A behavior-components taped-interview method delineating such personality components as ability to deal with anger and control temper might prove to be more predictive of assaultive status than the overall Type A/B interview rating.

TABLE 1

CHI-SQUARE RESULTS:

SELF-REPORT DISTRIBUTIONS OF TYPE A/B SCORES

OF A PRISONER SAMPLE COMPARED TO A MANAGERIAL SAMPLE

Category	Cases Observed	Cases Expected	Residual
Type B	21	13.60	7.40
Type A	13	20.40	-7.40
Total	34		

Chi-Square: 6.71 df: 1 p: 0.01

TAPED-INTERVIEW DISTRIBUTIONS OF TYPE A/B SCORES

OF A PRISONER SAMPLE COMPARED TO A MANAGERIAL SAMPLE

Category	Cases Observed	Cases Expected	Residual
Type B	18	13.60	4.40
Type A	16	20.40	-4.40
Total	34		

Chi-Square: 2.37 df: 1 p: n.s.

Legend

n.s. - not significant

TABLE 2

SPEARMAN CORRELATION MATRIX FOR DEMOGRPAHIC VARIABLES AND TYPE A/B RATINGS (N = 34)

		1	2	3	4	5	6	7	8
1.	AGE		0.28	-0.20	0.20	0.43	0.06	-0.24	0.24
2.	CONVD	0.28		-0.21	0.20	0.16	0.66	0.15	0.12
3.	BAP	-0.21	-0.20		-0.07	-0.30	-0.10	0.50	-0.34
4.	AB	0.20	0.20	-0.07		0.12	0.12	-0.09	-0.01
5.	SERC	0.43	0.16	-0.30	0.12		-0.03	-0.31	0.90
6.	NOC	0.06	0.66	-0.10	0.12	-0.03		0.36	0.04
7.	AN	-0.24	0.15	0.50	-0.09	-0.31	0.36		-0.38
8.	S	0.24	0.12	-0.34	-0.01	0.90	0.04	-0.38	

Legend

AGE - Age of Respondent

CONVD - Number of Years Between First and Last Conviction

BAP - Respondent's Own Type A/B Rating

AB - Interviewer's Type A/B Rating

SERC - Most Serious Conviction

NOC - Number of Convictions

AN - Assaulter/Nonassaulter Status

S - Length of Sentence

TABLE 3

ANALYSIS OF VARIANCE OF BAP SCORES

BY ASSAULTER/NONASSAULTER STATUS

Source	df	MS	F	p
Total Sample, n= 34				
Main effects				
AN	1	2341.03	10.65	0.003
Explained	1	2341.03		
Residual	32	219.78		
Total	33	284.06		

Legend

AN- Assaulter/Nonassaulter Status

TABLE 4

DISCRIMINANT ANALYSIS DIFFERENTIATING

ASSAULTERS FROM NONASSAULTERS (N= 34)

Independent Variable	Standardized Canonical Discriminant Function Coefficient
NOC	0.73
S	-0.48
BAP	0.75

Eigenvalue: 0.84 p 0.0003

Canonical Correlation: 0.68

Group Centroids:

Assaulters: 1.2.

Nonassaulters: -0.66

Legend

NOC- Number of Convictions

S - Length of Sentence

BAP - Respondent's Own Type A/B Rating

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